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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/898,989	07/03/2001	John E. Mercer	DCI-15C2	7384
21833	7590	09/22/2004	EXAMINER	
PRITZKAU PATENT GROUP, LLC 993 GAPTER ROAD BOULDER, CO 80303			SINGH, SUNIL	
		ART UNIT	PAPER NUMBER	
		3673		

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/898,989	MERCER, JOHN E.8
	Examiner	Art Unit
	Sunil Singh	3673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on ____.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) See Continuation Sheet is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) 42, 56, 70, 84, 115, 117, 119 and 120 is/are allowed.

6) Claim(s) See Continuation Sheet is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) Notice of Informal Patent Application (PTO-152)
6) Other: _____.

Continuation of Disposition of Claims: Claims pending in the application are 41-44,46-48,50,52,55-58,60-62,64,66,69-72,74-76,78-80,83,85-86,88-90,92,94 and 97-122.

Continuation of Disposition of Claims: Claims rejected are 41,43-44, 46-48,50,52,55,57-58,60-62,64,66,69,71-72,74-76,78-80,83,85-86,88-90,92,94,97-114, 116,118,121-122

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 41,43-44, 46-48,50,52,55,57-58,60-62,64,66,69,71-72,74-76,78-80,83,85-86,88-90,92,94,97-114, 116,118,121-122 are rejected under 35 U.S.C. 103(a) as being unpatentable over Galle '433 in view of Jenkins et al. (US 4035088)

Galle discloses a drilling system for performing underground boring (see Fig. 1) including a drill rig (229), a monitoring arrangement comprising a detection at said drill rig for monitoring at least one operational parameter to produce a data signal relating to at least one of a utility to be installed in the underground bore (see col. 12 line 1+), the drill rig and the boring tool, a portable receiver (233) configured for movement by an individual operator (the surface monitoring and recording equipment (233) is configured for movement by an individual operator) receiving the data signal relating to the operational parameter for use by the portable device and a communication arrangement (231) for transferring the data signal from the drill rig to the portable device. Galle discloses the invention substantially as claimed. However, Galle is silent about the portable device including a display arrangement. Jenkins et al. teaches a portable device (20) including a display arrangement (see col. 2 line 5+, 35+). It would have

been considered obvious to one of ordinary skill in the art to modify Galle to include a display arrangement as taught by Jenkins et al. since such an arrangement would visibly inform the operator of the status (parameters of interest) of the drilling process.

With regards to claims 97,99,101,103,105-114, Galle is silent about one of the parameters being detected being out of a specified range (catastrophic). To detect parameters that are out of a specified range is old and well known in the art. It would have been considered obvious to one of ordinary skill in the art to modify Galle by making the detected parameter be out of a specified range as is well known in order to provide efficient drilling.

With regards to claims 43,47,57,61,71,75,85,89,98,100,102,104, Galle does not explicitly teach that one of the parameters is a push force signal. Push force signals are well known and old parameters when boring. It would have been considered obvious to one skilled in the art to modify Galle by having at least one of the parameters be a push force signal which is well known in the art in order to be able to avoid damaging the drilling tool by pushing it too hard in the event it encounters an obstacle.

With regards to claims 44, 46, 58,60, 72,74, 86,88, 116, 118, 121, Galle does not explicitly teach that one of the parameters is a predetermined value. To have set predetermined values (such as maximum temperature) are well known and old parameters when boring. It would have been considered obvious to one skilled in the art to modify Galle by having at least one of the parameters be a particular predetermined value (such as maximum temperature) which is well known in the art in order to be able to avoid damaging the drilling tool by overheating.

With regards to claims 48,62,76,90, Galle does not explicitly teach that one of the parameters is a mud signal. Mud signals are well known and old parameters when boring. It would have been considered obvious to one skilled in the art to modify Galle by having at least one of the parameters be a mud signal which is well known in the art in order to be able to stop boring when there is not enough mud to facilitate flushing to cut debris.

With regards to claims 50,52, 64,66, 78-80, 92,94, 122, Galle does not explicitly teach that one of the parameters is a bend radius signal. Bend radius signals are well known and old parameters when boring. It would have been considered obvious to one skilled in the art to modify Galle by having at least one of the parameters be a bend radius signal which is well known in the art in order to be able to bore a deviated hole.

Response to Arguments

3. Applicant's arguments with respect to the previously rejected claims have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

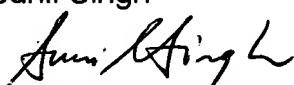
4. Claims 42,56,70,84,115,117,119-120 are allowed.
5. As allowable subject matter has been indicated, applicant's reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a).

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sunil Singh whose telephone number is (703) 308-4024. The examiner can normally be reached on Monday through Friday 8:30 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Shackelford can be reached on (703) 308-2978. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sunil Singh

Patent Examiner
Art Unit 3673

SS
9/16/04